JTLS-GO

Version Description Document

September 2025

DEPARTMENT OF DEFENSE
JOINT STAFF J7
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SUFFOLK, VA 23435-2697

**JOINT THEATER LEVEL SIMULATION - GLOBAL OPERATIONS
(JTLS-GO 6.3.7.0)**

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ABSTRACT

The Joint Theater Level Simulation - Global Operations (JTLS-GO®) is an interactive, computer-based, multi-sided wargaming system that models air, land, naval, Special Forces, and Non-Governmental Organization (NGO) functions within a combine joint and coalition environment.

This *JTLS-GO Version Description Document (VDD)* describes the new features of the Version 6.3.7.0 delivery of the configuration-managed JTLS-GO software suite.

JTLS-GO 6.3.7.0 is a Maintenance release of the JTLS-GO 6.3 series that includes fixes to uncovered software issues, an updated repository of standard data, and a demonstration scenario based in the western Pacific. This release includes one new model enhancement, described in Chapter 2. Code modifications that represent corrections to known Software Trouble Reports (STRs) are described in Chapter 3. Remaining and outstanding STRs are described in Chapter 4.

This publication is updated and revised as required for each Major or Maintenance version release of the JTLS-GO model. Corrections, additions, or recommendations for improvement must reference specific sections, pages, and paragraphs with appropriate justification and be forwarded to:

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1.0 INTRODUCTION

1.1 SCOPE

This *JTLS-GO Version Description Document* (VDD) describes Version 6.3.7.0 of the configuration managed Joint Theater Level Simulation - Global Operations (JTLS-GO®) software suite. JTLS-GO 6.3.7.0 is a Maintenance delivery for the JTLS-GO 6.3 series of releases.

JTLS-GO 6.3.7.0 includes the entire JTLS-GO suite of software, a repository of engineering level data, and a realistic demonstration scenario, called "wespac63", based on the Western Pacific theater of operations. There were no database format modifications between this Maintenance release and the original JTLS-GO 6.3.0.0 version. Appendix B of the original *JTLS-GO 6.3.0.0 Version Description Document* summarized the database format changes made between the JTLS-GO 6.2 series and this JTLS-GO 6.3 series of the software system.

Detailed description of the new Engineering Change Proposals (ECPs) is provided in Chapter 2.0. Chapter 3.0 summarizes the Software Trouble Reports (STRs) that have been corrected and are delivered with this version of JTLS-GO 6.3.

JTLS-GO 6.3.7.0 executes on the Red Hat Enterprise Linux Version 9.4 and Oracle Linux 9.4 64-bit operating systems. The Web-Hosted Interface Program (WHIP®) user workstation interface can be executed on any 64-bit operating system from any Java-compatible Web browser.

1.2 INVENTORY OF MATERIALS

This section lists documents and software that are relevant to JTLS-GO. All JTLS-GO documents included in this delivery are provided in PDF format within a documents subdirectory.

1.2.1 Obsolete/Outdated Documents

No documents have been deleted or become outdated as a result of this release.

1.2.2 Unchanged Documents

- *JTLS-GO Analyst Guide* (JTLS-GO Document 01, Version 6.3.6.0)

- *JTLS-GO Air Services User Guide (*JTLS-GO Document 02, Version 6.3.4.0)

- *JTLS-GO Configuration Management Plan* (JTLS-GO Document 03, Version 6.3.0.0)

- *JTLS-GO DDS User Guide* (JTLS-GO Document 06, Version 6.3.6.0)

- *JTLS-GO Executive Overview* (JTLS-GO Document 08, Version 6.3.6.0)

- *JTLS-GO WHIP Training Manual* (JTLS-GO Document 10, Version 6.3.5.0)

- *JTLS-GO Repository Description* (JTLS-GO Document 14, Version 6.3.4.0)

- *JTLS-GO Entity Level Server User Guide* (JTLS-GO Document 19, Version 6.3.4.0)

- *JTLS-GO Federation User Guide* (JTLS-GO Document 20, Version 6.3.0.0)

- *JTLS-GO C4I Interface Manual* (JTLS-GO Document 21, Version 6.3.5.0)

- *JTLS-GO DoD Architecture Framework* (JTLS-GO Document 22, Version 6.3.0.0)

1.2.3 Updated Documents

- *JTLS-GO Controller Guide* (JTLS-GO Document 04, Version 6.3.7.0)

- *JTLS-GO Data Requirements Manual* (JTLS-GO Document 05, Version 6.3.7.0)

- *JTLS-GO Director Guide* (JTLS-GO Document 07, Version 6.3.7.0)

- *JTLS-GO Installation Manual* (JTLS-GO Document 09, Version 6.3.7.0)

- *JTLS-GO Player Guide* (JTLS-GO Document 12, Version 6.3.7.0)

- *JTLS-GO Software Maintenance Manual* (JTLS-GO Document 15, Version 6.3.7.0)

- *JTLS-GO Technical Coordinator Guide* (JTLS-GO Document 16, Version 6.3.7.0)

- *JTLS-GO Version Description Document* (JTLS-GO Document 17, Version 6.3.7.0)

1.2.4 New Documents

No new documents are required for this version of the software.

1.2.5 Delivered Software Components

JTLS-GO 6.3.7.0 may be delivered either on a CD or as a set of compressed TAR files to be downloaded. Either method includes the complete suite of software executable code and command procedures. The following software components are included with this release:

- Combat Events Program (CEP)

- Geo-Spatial Service (GSS)

- Scenario Initialization Program (SIP)

- Interface Configuration Program (ICP)

- Reformat Spreadsheet Program (RSP)

- JTLS Symbols Application (JSYMS)

- Database Development System (DDS)

  Database Configuration Program (DCP)

  DDS Client User Interface (DDSC)

- ATO Translator Service (ATOT)

- ATO Generator Service (ATOG)

- ATO Retrieval Program (ATORET)

- JTLS Convert Location Program (JCONVERT)

- Count Critical Order Program (CCO)

- JTLS HLA Interface Program (JHIP)

- After Action Review Client (AARC)

- Scenario Data Client (SDC)

- Order Entry Client (OEC)

- Order Verification Tool (OVT)

- JTLS Object Distribution Authority (JODA)

  The current JODA build number is 215.

- Web Services Manager (WSM)

- Web-Hosted Interface Program (WHIP) and its component programs:

  Apache Server (APACHE) version 2.4.62

  JTLS XML Serial Repository (JXSR)

  Order Management Authority (OMA)

  Synchronized Authentication and Preferences Service (SYNAPSE)

  XML Message Service (XMS)

  Total Recall Interactive Playback Program (TRIPP)

- Entity Level Server (ELS)

- JTLS Operational Interface (JOI) for both OTH-Gold and Link-16 generation

- Tactical Electronic Intelligence (TACELINT) Message Service

- Keyhole Markup Language (KML) Operational Interface (KOI)

- JTLS Transaction Interface Program (JTOI)

    JTOI_ICC302 - Used to feed NATO Integrated Command Control (ICC) Version 3.0.2 system.

    JTOI_ICC320 - Used to feed NATO ICC Version 3.2.0 system.

    JTOI_ICC340 - Used to feed NATO ICC Version 3.2.0 system.

    JTOI_ICC350 - Used to feed NATO ICC Version 3.2.0 system.

    JTOI_NECCCIS - Used to feed NATO Northern European Command, Command Control Information System (NECCCIS).

    JTOI_TBMCS - Used to feed US Theater Battle Management Core System (TBMCS).

- JTLS Interface Network Navigator (JINN)

- JTLS Order of Battle Editor (JOBE)

- JTLS Geographic Information System (GIS) Terrain Building Program

- JTLS Master Integrated Database (MIDB) Tool

- JTLS Version Conversion Program (VCP)

    VCP60 - Converts a JTLS-GO 5.1 database to a JTLS-GO 6.0 formatted database.

    VCP61 - Converts a JTLS-GO 6.0 database to a JTLS-GO 6.1 formatted database.

    VCP62 - Converts a JTLS-GO 6.1 database to a JTLS-GO 6.2 formatted database.

    VCP63 - Converts a JTLS-GO 6.2 database to a JTLS-GO 6.3 formatted database.

Instructions for installing JTLS-GO 6.3.7.0 are provided in the *JTLS-GO Installation Manual*. Compared to the JTLS-GO 6.2 series, the JTLS-GO 6.3 series uses a significantly different version of PostgreSQL and the Linux operating system. If an organization has not already upgraded to the JTLS-GO 6.3 version, ensure special attention is given to following the documented operating system and PostgreSQL installation procedures. No other upgrade beyond installation of the compressed TAR files or CD is required. The software provided with this delivery is a complete release that includes all files and code required to execute JTLS-GO.

1.2.6 Released Databases

This release includes the following sample unclassified databases:

- The scenario that serves as a repository of engineering level data called "repository63". Although not useful as a scenario, it does follow all of the database requirements for a scenario, and should be loaded into your PostgreSQL scenario table-space.

- The scenario "wespac63", which is suitable for training and demonstrations. The scenario has been updated to use the newest version of engineering level data.

1.3 INTERFACE COMPATIBILITY

1.3.1 Support Software

JTLS-GO 6.3.7.0 requires the following versions of support software, including operating systems, compilers, scripting utilities, database tools, transfer protocols, and display managers.

- Operating system for the model: Red Hat Linux Enterprise Server (ES) Edition Version 9.4, 64-bit architecture.

    JTLS-GO 6.3 has been tested with the following versions of Linux 9:

    RedHat Linux 9.4 - this operating system license must be purchased.

    Oracle Linux 9.4 - This operating system is free to download, use, and distribute, and is provided in a variety of installation and deployment methods. It has been approved by Defense Information System Agency (DISA) for use by U.S. Government Agencies.

- There are no restrictions on the operating system for client workstations, except that the operating system must be a 64-bit architecture with a Java-enabled web browser. JTLS-GO 6.3.7.0 has been tested on the following operating systems:

    Red Hat Linux Enterprise Edition Version 9.4

    Oracle Linux 9.4

    Windows 10, which can be used only if the workstation is an external HTTP client of the simulation network.

- JTLS-GO 6.3.7.0 is delivered with the Adoptium project Temurin Java Development Kit (JDK) 1.8 Update 462 package. Both the ICP and DCP have the option for an organization to increase the maximum memory heap for the WHIP and DDSC. For large scenarios and databases, an organization should consider increasing the maximum heap size.

- JTLS-GO uses IcedTea to provide the Java Web Start capability that implements the web-enabled JTLS-GO functionality. JTLS-GO supports IcedTea version 1.8.4.

- JTLS-GO 6.3.7.0 is being delivered PostgreSQL 15.13 that has been compiled under Linux 9.4 and is bundled with the tar files for this release. This version of PostgreSQL is the latest security patch release of PostgreSQL and is being delivered in accordance with US Department of Defense Cybersecurity requirements. It is not necessary to use the delivered solution, but it is the easiest method to meet the requirements of JTLS-GO 6.3.7.0. There are several alternative methods available for obtaining the PostgreSQL 15.13 software. Refer to Chapter 6 of the *JTLS-GO Installation Manual* for additional installation details.

- Windows software, X11R5 server, Motif 1.2 Library, Motif Window Manager: These items are included as part of the supported versions of Red Hat Linux ES.

- The Perl script language is used by the JTLS-GO system and game setup scripts. The version of Perl included with the supported versions of Red Hat Linux ES is sufficient. The Perl program is typically located in the /usr/bin directory. If Perl is installed in a another location, a link should be created from the /usr/bin directory to this program.

- SIMSCRIPT III (SIMSCRIPT to C) translator/compiler: SIMSCRIPT is required for recompiling JTLS-GO code. It is not necessary to have a SIMSCRIPT compiler to execute JTLS-GO, because all JTLS-GO software executables are statically linked with the SIMSCRIPT libraries. The compiler is needed only if you are a U.S. Government organization that can obtain source code and plan to re-compile JTLS-GO SIMSCRIPT code.

- ANSI C Compiler: It is not necessary to use a C compiler to execute JTLS-GO. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS-GO component programs. The C Compiler version delivered with the supported versions of Red Hat Linux ES is sufficient.

- C++ Compiler: It is not necessary to use a C++ compiler to execute JTLS-GO. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS-GO HLA component programs. The C++ Compiler version delivered with the supported versions of Red Hat Linux ES is sufficient.

- The JTLS-GO DDS application uses these open source libraries:

  JFreeChart, licensed under a GNU Lesser General Public License (LGPL) by Object Refinery Limited, http://www.object-refinery.com

  JCommon, licensed under LGPL2.1 (GNU Lesser General Public License version 2.1 or later) by Object Refinery Limited, http://www.object-refinery.com

  Commons-math3-3.0.jar, licensed under Apache Software Foundation (Apache License, Version 2.0) http://www.apache.org/licenses/LICENSE-2.0HLA Compliance

- KML Operational Interface (KOI)

The Keyhole Markup Language (KML) Operational Interface (KOI) server utility enables the model to feed operational simulation data to any version of Google Earth™. The display capabilities and data transfer features of this terrain viewer are sufficiently robust to be used as a base-level operational interface. Operational Players who may be restricted from using an operational Command, Control, Communication, Computer Information (C4I) systems may be able to install and use Google Earth and configure the KOI to provide a capability that resembles C4I for observing perception Force Side data.

Chapter 3 of the *JTLS-GO C4I Interface Manual* describes requirements and procedures for using the KOI capabilities.

- JTLS-GO 6.3.7.0, using the JODA service, allows connections and data exchange with customer client programs. The customer client programs are linked with a set of JTLS-GO-provided API libraries that permit a TCP/IP connection between the JODA and the client program. These API libraries, called JDSP libraries, are built for Linux and Windows and allow customers to built client applications on either of these operating systems. Below are the development environments under which each of the JDSP libraries are built:

    RedHat Linux 9.4 using gcc (GCC) 11.4.1 20231218 (Red Hat 11.4.1-3.0.1)

    Windows 10 using Visual Studio 2017 version 15.9.60 and Visual C++ 00369.60000.00001-AA807

1.3.2 JTLS-GO Cybersecurity Compliance

Because of recent incidents of intrusions into software systems, the United States Department of Defense (DoD) has implemented a strong and strictly enforced Cybersecurity program. JTLS-GO, as software that executes on DoD systems, must comply to the mandates of the program, along with all of the third party software used by JTLS-GO, such as PostgreSQL and Java.

One of the DoD requirements is that the software must implement a methodology that ensures that the end user keeps the software up-to-date and all security patches are properly installed. In previous versions of JTLS-GO, Java 8, as delivered by Oracle, fulfilled this mandate by implementing an expiration date for its software. The concept of an expiration date has been removed from the DoD requirement, but the concept of always using the latest version of third-party software remains a strong component of DoD Cybersecurity requirements.

The following procedure has been established and approved by the JS/J7 Cybersecurity branch to meet the software update requirement:

- Within days of an Oracle Java security release, AdoptOpenJDK produces an equivalent version using infrastructure, build and test scripts to produce pre-built binaries of the OpenJDK class libraries. All AdoptOpenJDK binaries and scripts are open source licensed and available for free.

- Within two-weeks of the AdoptOpenJDK release, JTLS-GO provides a bug release version (JTLS-GO 6.3.n.0) including a full Version Description Document (VDD) for download to all authorized agencies. All DoD agencies using JTLS-GO will be in full compliance with this specific Cybersecurity mandate as long as they download and use the bug released versions when distributed.

The JTLS-GO 6.3 series has been issued an Exit Gate letter and certification from the JS/J7 Cybersecurity branch. Please contact the U.S. Government Program Manager, Mr. Douglas Failor (douglas.l.failor.civ@mail.mil) to obtain the completed Cybersecurity paperwork.

1.3.3 JTLS-GO High Level Architecture Compliance

The JTLS-GO 6.3.7.0 release is fully High Level Architecture (HLA) compliant, and includes all the programs required to run JTLS-GO in an HLA mode. JTLS-GO currently belongs to one federation known as GlobalSim. GlobalSim is a comprehensive constructive simulation solution for joint training and wargaming that helps commanders and all levels of staff prepare for a range of operational scenarios.

The solution combines JTLS-GO with CAE's GESI constructive tactical entity-level simulation system. CAE's GESI constructive simulation system is designed to run complex and comprehensive exercises from the company level up to division level. The GESI system is used to represent a virtual battlefield, including weapons, vehicles, aircrafts, ground forces and more.

Combining JTLS-GO and GESI brings together operational and tactical level constructive simulations to prepare commanders and staff to make timely, informed and intelligent decisions across the full spectrum of operations, including conventional combat, disaster relief, and operations other than war.

From the JTLS-GO perspective, all software needed to run GlobalSim is included in this delivery. JTLS-GO uses the Federation Object Model (FOM) located in the $JGAME/data/hla directory. Previous federation testing of JTLS-GO with CAE's GESI model has been accomplished using this FOM. The reader should note that the JTLS-GO Development Team, to date, has not been able to test this federation using this maintenance release of JTLS-GO. If there is interest in running this federation, please contact the JTLS-GO Help desk at jtlsgo@valkyrie.com.

The HLA RTI (Run Time Infrastructure) executive program (rtiexec) recommended for use with this release is Pitch pRTI Evolved 4.4.2.0. However, this program is not included in the JTLS-GO 6.3.7.0 delivery. Users may obtain a full installation package of the RTI software from Pitch Corporation (www.pitch.se). For information about executing the HLA RTI Executive and other HLA-related software, refer to the appropriate HLA documentation and user guides.

1.4 DATABASE MODIFICATIONS

Significant database structure differences exist between the JTLS-GO 6.3 series and the previous JTLS-GO 6.2 series database structure. Appendix B of the *JTLS-GO 6.3.0.0 Version Description*

Document has a summary of all database changes. To upgrade your JTLS-GO 6.2 scenario to JTLS-GO 6.3 compatibility, see instructions listed in the *JTLS-GO DDS User Guide*, Chapter 3.1.

> Due to changes made in support of STR JTLS-2025-17088 Missile Capability Does Not Have Torpedo, the record has been added to the JTLS-GO 6.3.5.0 Configuration Managed tw_missile_capability lookup table. This is not a database format change, but to make this new record available for the database building effort, users should **unload** their JTLS-GO 6.3 series scenarios prior to installing JTLS-GO 6.3.5.0, and then **load** them following installation. Please refer to the *JTLS-GO 6.3.5.0 Version Description Document* for more details.
>
> Upgrading earlier JTLS-GO versions to the JTLS-GO 6.3 format will automatically correct the problem. No additional action is required.

Due to the mandated Cyber-Security improvements made to the Database Configuration Program (DCP) and the Database Development System Client (DDSC) for JTLS-GO 6.3.4.0, each PostgreSQL database scenario needs to be reconfigured. If you skipped moving in JTLS-GO 6.3.4.0, please execute the procedure in the following note for each JTLS-GO 6.3 scenario:

> - Go to the $JTLSHOME/data/scenario/<scenario_name>/config directory.
>
> - Delete the entire directory and its subdirectories.
>
> - Start the new DCP and create the needed DDSCs.
>
> - Each organization can decide whether they want to use the new encrypted password capability and the new DDSC privilege capability. Refer the *JTLS-GO Database Development User Guide* for information concerning the new DCP interface.

1.4.1 JTLS-GO Using Legacy Default Symbol Set

If a user organization is still using the pre-JTLS-GO 5.0.0.0 legacy default symbol set, prior to unloading your JTLS-GO 6.3.0.0 formatted data from your PostgreSQL database server into the JTLS-GO 6.3.0.0 scenario American Standard Code for Information Interchange (ASCII) text files, you must execute the JSYMS program using the procedure outlined in the *JTLS-GO DDS User Guide*, Appendix B.11. This procedure will reorganize the structure of the <scenario_name>.gs and databases symbol.scf file.

1.4.2 JTLS-GO Using New Default Symbol Set

Users are reminded that organizations should not make any modifications to the Default Symbol Set delivered with JTLS-GO. End-user organizations are free to use the Default Symbol Set in their

scenarios and alter the scenario symbol set to their scenarios to meet specific organizational needs.

The JTLS-GO Default Symbol Set has not been changed since August 2020. At that time, some new symbols were created to meet end-user requirements. No previously existing symbols were deleted nor were any of the preexisting symbol names changed. If any existing scenarios have not moved to this new Default Symbol Set, this means that the user can easily move in this new symbol set. Please follow the steps outlined in the *JTLS-GO DDS Users Guide*, Section B.13, Updating Scenario Symbol Set.

1.4.3 Standard Repository Changes

The JTLS-GO Database Team has continued to improve and expand the unclassified data repository, which has been renamed to "repository63". The DDS comparison and synchronization function can be used to determine if any of the changes delivered are of use to a JTLS-GO user organization. Specifically, significant effort has been started to represent additional Combat Systems to more closely match the Combat Systems recognized by the Joint Live Virtual Constructive (JLVC) federation of models. This effort is expected to be an ongoing effort for the next three to five months.

1.5 INSTALLATION

The *JTLS-GO Installation Manual,* a Portable Document Format (pdf) file available for direct download, is part of this JTLS-GO delivery, It provides detailed instructions for installing the new version of JTLS-GO and the installation of PostgreSQL 15.13.

> **Reminder:** Ensure existing JTLS-GO Version 6.3 databases held in the PostgreSQL table-space are unloaded prior to installation and reloaded after installation, as explained in Section 1.4.

2.0 ENGINEERING CHANGE PROPOSALS

Four Engineering Change Proposals (ECP) were delivered with this release.

2.1 JTLS-0530 Cruise Missile Track Air Intercept

Summary of Model Change Request

An interceptor cannot be manually paired against a Cruise Missile track. The model will not allow auto pairing.

Design Summary

The code was improved to allow manually pairing against a Cruise Missile Track.

2.2 JTLS-2025-17377 AAR Supply Usage Report Selection By Faction/Side

Summary of Model Change Request

The user needs to determine supply consumption values of friendly foreign forces in allied countries - for example, the consumption values of American forces located within Germany might be required. The best location to retrieve these data is the AAR Supply Usage Report, but that report works on specific object or unit hierarchies, not on unit locations and Force Sides or Factions.

Design Summary

The options of Force Side, Force Side List, Faction, and Faction List have been added to the existing selectable objects on the AAR Supply Usage Report.

These four new object options can also specify an optional Geo Region to limit retrieval. When filtering by Geo Region, whether or not to include an object's consumption will depend on whether the owning aggregate unit fulfills the filter criteria. For example, for an air mission consuming fuel, it is not the air mission's location that matters, but the location of its home squadron. If that same air mission was to take fuel from an airborne tanker, both the air mission and the tanker would check the location of their home squadrons to determine if the event is relevant. It should be noted, that if both home squadrons are in the retrieval criteria, this event is considered an internal transfer which is excluded from one of the report presentation options.

2.3 JTLS-2025-17383 Add Capability To Pre-Plan Starting Damage

Summary of Model Change Request

A user wanted to pre-plan and approve starting damage levels for the represented forces. This was desired because the exercise was designed to start after several days of warfare had

already occurred. An easy method was needed to pre-run the model, develop a proposed force damage state and have that state approved by the exercise proponent. To accomplish this task, a new capability was developed to save the current damage state of all Units and Targets in a pre-exercise run of the scenario.

Design Summary

This new capability goes through every Unit in the game and automatically creates a series of Damage Combat System orders that will recreate the exact damage in the scenario at game start. In addition, the same procedure will automatically create a series of Controller Change Target orders for every Target that has been reduced in strength during the pre-exercise run.

Basically, once the damage state of all Units and Targets has been approved in the pre-exercise run, the generation of the orders needed to recreate this damage state is initiated using the Controller WRITE INITIALIZATION FILE Order and selecting the option to "Write Damage Order Files". Once the order is executed, the orders needed to recreate the current damage state are located in the **$JGAME/<scenario_name>/orders** directory. These orders need to be processed by the Order Verification Tool (OVT) and submitted immediately after game start in the actual exercise scenario.

Details of this entire procedure are included in Section 5.1.5 of the *JTLS-GO Controller Guide*.

2.4 JTLS-2025-17385 Add AIS To OTHGold Messages

Summary of Model Change Request

OTH-Gold messages follow the 2000 baseline message format. This format did not include an Automatic Identification System (AIS) message record. A modification was made to JTLS-GO 6.3.6.0 during an exercise to add the AIS record following the 2007 message format. This was successfully tested with NORCCIS and with MCCIS. These modifications are to be permanently implemented in JTLS-GO.

Design Summary

If JTLS-GO has Maritime Mobile Service Identity (MMSI) or International Maritime Organization (IMO) identifiers available, an AIS record is inserted following the OTH-Gold 2007 baseline message format.

The AIS record has seven fields. Only the first two fields are filled. The remaining five fields are blank because JTLS-GO does not hold this information:

- Field 1 - MMSI

- Field 2 - IMO

- Field 3 - Types of aids to navigation

- Field 4 - Navigation status

- Field 5 - Type of electronic position Fixing device

- Field 6 - Ship type/Cargo Type

- Field 7 - Draught

3.0 SOFTWARE TROUBLE REPORTS

Software Trouble Reports (STRs) describe software code errors that have been discovered by JTLS-GO users or developers and have been corrected.

3.1 JTLS-2025-17241 Remove Unnecessary Land Task

If the user builds an air route telling a mission to land at a specific airbase, the model automatically added a Take Off task for the mission. If the next task on the task list is something that should take place on the ground, the Take Off task should not be there.

When it comes time to execute a task, the model asks whether the task should be conducted on the ground or in the air. If the mission is in the wrong place, the model automatically adds a "and or Take Off task to properly position the air mission.

When building the mission's route list, the model does not need to add a Take Off task. When the proper time to execute a task comes, the model will add the Take Off task if it is needed. For this reason, adding an automatic Take Off task when building the mission's route has been removed.

3.2 JTLS-2025-17245 Airbase Runway Repairs

An Airbase Tactical Unit Prototype (TUP) has a Mean Time to Repair, but has zero for Concurrent Runway Repair Capability. It will not repair any runways.

The TUP should have values greater than zero for both Concurrent Runway Repair Capability and Mean Time to Repair, or they should both be zero.

If Concurrent Runway Repair Capability is greater than zero, and the TUP has a value of zero for Mean Time to Repair, the model will crash if the runway is cut. Error 200 already exists and catches this situation.

If Concurrent Runway Repair Capability is zero and it has a value greater than zero for Mean Time to Repair, nothing happens. It is an inconsistency and will now be reported with new Warning 1219.

3.3 JTLS-2025-17247 WHIP Foreign Language Clear Cache Prompt

When switching the WHIP login screen to another language and then selecting the Clear Cache button, the popup window's text was not fully formatted with replacement variable values.This behavior was also observed on the TRIPP login screen.

The method used to obtain and display the message for the WHIP and TRIPP was missing the code for the substitution of the variable. Code was added to the method to perform the substitution.

3.4 JTLS-2025-17248 Faction Merge Cannot Comply Message

When sending an order to merge two Factions, the Controller will receive a "Cannot Comply" message stating that the two Factions to do not have the same prototypes. The message lists index numbers of the prototypes, but does not display the actual values of the prototypes that do not match.

The value of the prototype has been added in addition to the index numbers.

The name of the order that the Controller sent has also been added to the subject line of the Cannot Comply message. It was previously missing.

3.5 JTLS-2025-17251 Disable Map Zooming When Drawing Tool Active

When the Geo Region or standard drawing tools are active, zooming in during mid-draw will freeze the tool and cause it to prematurely finish and save too early. This can lead to a null pointer exception when retrieving unfinished shapes or regions from the region manager.

Zooming in the Map, when either the Geo Region or standard drawing tools are active, is now disabled. Zooming is enabled once the drawing tools are deactivated.

3.6 JTLS-2025-17252 Transferred Helicopters Not Assigned To Ship

A helicopter squadron was ordered to transfer to a ship. The squadron was not naval qualified. When the transfer mission arrived at the ship's location, it did not adopt the ship as the squadron's homebase. The ship moved away and left the squadron behind in the sea.

As a general rule, non-naval qualified aircraft are not permitted to land on naval vessels. Rotary-wing aircraft are excepted from this rule. The model does not reject orders that direct non-qualified rotary wing aircraft to land on a naval vessel. The non-qualified rotary wing squadron arrives at the ship, but is not home based there.

The logic failed to account for this situation fully and did not assign the ship as the new homebase for the transferred squadron. This error also generated a logic error. The code error was corrected to assign rotary-wing aircraft to the ship, whether the squadron is naval-qualified or not.

3.7 JTLS-2025-17256 Zero JEDI Crashing SDC

A JDS Protocol (JDSP) squadron update contained a zero JODA Entity Data Identifier (JEDI), meaning it was sent before the unit had been initialized with the JDSP, which caused the Scenario Data Client (SDC) to crash.

The model should not be sending updates before an object has been initialized with the JDSP. However, if the situation exists and the error is not found in testing, the SDC should be crash-

proofed for the situation. The necessary code modifications have been made to ignore a create, update, or delete packet with a zero JEDI.

A second error involving an error print had three format specifications, but only two format arguments. Because the third, missing, argument was printed on the following line, the additional format specification was removed for the problem line.

3.8 JTLS-2025-17259 OPM Does Not Properly Print Parameter

The database parameter TUP MAX MOVE HOURS PER DAY holds an integer from 1 to 24, indicating the number of hours a unit that uses the TUP can move in every 24-hour period. The new Online Player Manual (OPM) always prints out a value of zero Seconds.

The print code assumed that the database parameter was a percentage of a day that the unit could move, not the number of hours. The OPM print statement was corrected to print out the integer value.

While looking through the code, it was discovered that the old OPM TUP parameter code was still in the code base, even though it was never called. The old routine was also deleted from the code base.

3.9 JTLS-2025-17261 Air Mission Package Bad Egress Route

If the user enters an Air Mission Package order without an ingress or egress route, the attack missions build an egress route after their Fire Weapon task that includes a move to the coordinates 0, 0.

This issue was introduced when Air Mission Package routes were allowed to use Air Control Mean (ACM) routes. When the attack mission's tasks are formed, the attack mission determines there is no defined Package route, so it creates its own route back to the rendezvous point. The problem was that the automatically-created route did not properly specify that this automatically-generated route was not an ACM route. Because this was not specified, the attack mission processed the automatically-generated route incorrectly, leading to the addition of the Move to point 0,0.

Once the automatically-generated route is properly identified as a transit route and not an ACM route, the model properly established the attack mission egress route.

3.10 JTLS-2025-17262 BDA Report Totals Missing Combat System Names

The Player Battle Damage Assessment (BDA) report tallies all Combat System losses inflicted by ground units (via Lanchester combat), explicit artillery and missile attacks, and air strikes within a defined area. The totals section at the bottom of the report listed the loss tallies, but omitted the Combat System names.

The message template referenced the incorrect data elements, so that only the total number of systems lost were printed in the BDA report. The template was corrected to include both the Combat System names and total losses for each.

3.11 JTLS-2025-17264 DDSC Location Field MGRS "Y" Character

A user reported that DDSC location fields did not allow MGRS locations that contained a "Y" character.

The valid characters for the location cell editor were hard-coded, and did not include the character "Y". For future ease of modification and to be consistent with other cell editors of the DDSC tables, the valid_chars_location property is added in the dds.properties file that contains the character "Y".

The applicable screen definition files were modified to specify their location editor's valid-chars attribute as the valid_chars_location. The hard-coded code in the location cell editor was taken out so that the cell editor uses the valid-chars specifications in the screen definition files instead.

3.12 JTLS-2025-17272 TPFDD IMT Screen Spreadsheet Non-Operational

The order spreadsheet capability to alter or manage several existing TPFDD events was not working.

Two problems were uncovered:

- The WHIP was not properly filling the spreadsheet when an optional field that could contain a unit name was empty.

- The spreadsheet was attached to the Unit_Info IMT screen. It was supposed to be attached to the TPFDD IMT screen

Both issues were corrected.

3.13 JTLS-2025-17274 Block Mobility Tasks For Non-Mobility Missions

Only Mobility missions can perform the following tasks:

- Pickup Supplies

- Pickup Units

- Insert/Extract HRUs

- Insert/Extract Air Missions

It should be impossible to give these tasks to non-Mobility Missions.

A new constraint was added to the Manage Air Mission Task order, to stop a user from giving these tasks to a non-Mobility Mission.

3.14 JTLS-2025-17276 Order Spreadsheet Location Field Not Clearable

The location field in the order spreadsheet could not be cleared of a location entry, when the field was not a mandatory field for the order.

The location field was updated to know when a location field is optional, and to allow the user to clear the field when empty and has a location value.

3.15 JTLS-2025-17282 Added More Specific Location Data To IIR

The existing Imagery Interpretation Report (IIR) message contains only location information that should be shown in the centroid of the collection area. Users have indicated that this guidance makes the current IIR message useless. Specific location information is needed for the detected objects.

The following objects can be detected when collecting information within a specified Directed Search Area (DSA):

- Units

- Targets

- Air Missions on the ground

- Abandoned Combat Systems

The current guidance allows us to report these objects, but Units, Air Missions on the ground, and abandoned Combat Systems are only reported as the type of equipment that was detected, and there is no information concerning the unit to which the equipment belongs. This makes it impossible to report any specific location information and maintain the formatting rules for the IIR.

On the other hand, the location of the detected targets can easily be added to the report and maintain the IIR format rules. This was accomplished and now the location of all detected targets are included in the message.

While implementing this correction, it was noted that the photographic damage interpretation data was not included in the English version of the IIR message. It was included in the United States Message Text Format (USMTF) version of the IIR message. This problem was also corrected.

3.16 JTLS-2025-17284 JXSR Publications For WHIP Map/Sitrep

When closing a Map or Sitrep frame in the WHIP, the JXSR publications for each component would not terminate as shown in the JXSR publication log in the Web Services Manager. This caused multiple connection leaks with the JXSR as multiple publications were still active when not being used.

JXSR publications will now be properly deactivated when the user closes the frame. The JXSR publication log will no longer display the active connections when the Map/Sitrep frames are closed.

3.17 JTLS-2025-17285 UAV Landing On Naval Unit Issues

While testing unmanned rotary-wing aircraft tasked from ground (non-squadron) units, several issues were uncovered pertaining to naval landing locations:

- An air mission order was submitted with a naval unit specified as a Return Location. The mission ignored the naval unit and returned to its launching unit when the mission was complete.

- A Change Mission Parameter order was submitted to an active mission to change its Return Location to a submarine. The mission incorrectly accepted the change and landed on the submarine when the UAV mission was complete.

- A Manage Air Mission Tasks order was submitted to an active mission to add a route. The new route specified a naval unit as a Ground Location to refuel. The route was incorrectly rejected because the UAV aircraft was not naval-qualified.

By convention, rotary-wing aircraft are permitted to land on naval units that are helicopter-capable or aircraft carriers, and need not be naval-qualified. Most UAV aircraft are modeled as rotary aircraft. They have zero takeoff and landing distance requirements. Note that rotary/UAV aircraft are permitted to recover at virtually any unit type, but may not go on alert, refuel/rearm, or ground wait at a ground unit or at a support unit.

The first issue, where a naval unit Return Location was ignored in any air mission order, was caused by a code error in the routine that initializes the common mission attributes before launching. After fixing this error, additional logic was necessary in the routine that validates the naval recovery unit for UAVs to allow only helicopter-capable ships or carriers as a Return Location.

This new logic also corrected the second issue with the Change Mission Parameter order to prevent UAV missions from landing on unsuitable naval units (i.e. submarines).

The third issue, involving the Manage Air Mission Tasks order, was caused by an error that checks the suitability of the specified naval unit in the new route. The logic was not allowing rotary-wing aircraft to ignore the naval-qualified requirement. This error was corrected.

A fourth issue was uncovered in the routine that validates a recovery unit for a rotary mission originating from a squadron. Logic was missing to reject a ground or support unit if the unit had a different aircraft type assigned. The error was corrected.

3.18 JTLS-2025-17286 Integrate Order Menu Into WHIP Top Level Menu

The WHIP menu which contains the orders, quick order, IMT tables, and context sensitive actions available on the WHIP was reworked to make the IMT tables and order menus separate files. This was too cumbersome for configuration control, and the decision was made to revert the order menus and reintegrate them into the main menu file.

Orders were reintegrated into the main menu file, the XML Schema Definition (XSD) for the main menu was updated, and the verification of the menus was updated for the new format.

Because the main menu XSD now contains the format for the order section, the separate XSD for order files was obsolete and removed.

3.19 JTLS-2025-17292 Improve SDC Startup Time

The SDC takes a long time to populate the Postgressql database with JODA download data when started.

No programmatic way was found to speed up the database population on a start. However, by switching the SDC tables to be non-logging, which prevents data recovery in case of a system error, the database population time could be reduced by 40%. Because the SDC is dynamic data, and can be repopulated at any time from a running game, the development team does not feel that logging is required for these tables. The script to create the SDC tables now creates them as non-logging tables.

Equally important, the ICP allows the creation of multiple SDC instances by Force Side, which allows distributing the job of populating the database. Using an SDC for each Force Side, and non-logging tables, greatly reduced initial database population time during testing. The advantages of using multiple SDC instances has been added to the *JTLS-GO Technical Coordinator Guide*.

A minor error was discovered when running a single SDC for all Force Sides. The SDC was designed to disable all constraints during the initial database population in order to improve performance, and reestablish the constraints afterwards. Due to the error, this was not being done, and the error has been fixed.

While performing the timing test with multiple SDC instances, it was noted that only a single object filter file exists that is shared by all SDC instances. This was deemed inadequate and the ICP and SDC Filter Interface were modified to support a separate filter file for each SDC.

3.20 JTLS-2025-17293 USMTF LOGSITREP Rollup Missing Weapon Counts

The USMTF version of the Logistics Sitrep (LOGSITREP) rollup report included the weapon supply categories by total weight, instead of the total quantity of each weapon type on-hand within the chain of command.

Based on the 2004 USMTF LOGSITREP specifications, the weapon supply category weights section was replaced by a weapon counts section: Current, Unavailable, and Total. The English version of the roll-up LOGSITREP already includes the weapon counts.

Some general cleanup of both reports was accomplished.

3.21 JTLS-2025-17295 Controller-Owned OPAREA Crash

The DDS allows the user to create an Operations Area (OPAREA) owned by the Controller. This causes a crash, as the model was never intended to have an OPAREA owned by the Controller.

The DDS incorrectly allows an OPAREA to be owned by the Controller, but it cannot be fixed during this release cycle, because the database schema cannot be changed until the next major release. The following two patches were implemented to ensure the illegal situation cannot occur in any user scenario:

- A new Error was added to the SVP, indicating that the database contains an OPAREA that is assigned the Controller as the owning Force Side. If the database generates this Error, the database team must either delete the OPAREA or change the ownership to one of the Force Sides.

- Because it is possible that users are already running a scenario with this error, but that has not caused a crash yet, a second patch has been implemented. When the model reads in the database, if it encounters an OPAREA with its owning Force Side set to Controller, the model will generate a Logic Error and change the ownership of the OPAREA to Force Side 1.

3.22 JTLS-2025-17297 Stop Abundance Of Range Item Updates

The model was producing almost 80,000 range updates per day. This is a huge load on the system.

The model produced a range item update if a new range was computed that was different than the old range by 1 meter. The model is now initialized to only send out range item updates if the change is more than 75 meters.

Because this is data, and it is impossible to change the format of the database, the parameter MIN.RANGE.ITEM.UPDATE was created as a non-configuration-managed data parameter. The model initializes this parameter, but the Controller can change the parameter to any desired value during game play.

3.23 JTLS-2025-17305 ELS Target Category Name Data Format Error

The Entity Level Server (ELS) static file was used by the ELS to access some data parameters which were not otherwise available. In this file, the names of Target categories were printed to this static file during execution. However, the format only allowed names up to 20 characters in length, whereas Target category names are allowed to be up to 25 characters long.

The code to write the ELS static file was changed in both the SIP and the CEP to write out the full 25-character names.

3.24 JTLS-2025-17306 Unable To Create Hypersonic Weapons During Game

The model allowed the Controller to create new weapons during execution using the Set Targetable Weapon order. The option for creating a new HYPERSONIC weapon was available on the order panel, but the code did not allow creation to occur.

The order processing code included a routine which checked the parameters associated with missiles. A missile type of BALLISTIC required the specification of exactly one boost phase. Other missile types (TORPEDO, CRUISE) required the weapon to have zero boost phases. In the model, all HYPERSONIC missiles must have at least two boost phases. This requirement was not implemented in the proper checking code.

Changes were made to include a check for the case of HYPERSONIC weapons. Appropriate rejection messages were added for a better understanding of errors.

3.25 JTLS-2025-17308 Better Hypersonic Flight Profile

After watching the hypersonic weapon flight profile on a C4I device, several improvements were made to the hypersonic weapon profile.

A better computation for the boost phase-linked parabola algorithm was developed.

3.26 JTLS-2025-17312 Update Self Signed Certificate Organization

The Self Signed Certificate process was referencing old organization details when signing certificates.

The Self Signed Certificate process now references "Valkyrie Enterprises LLC, Pacific Grove, CA."

3.27 JTLS-2025-17315 New Auto Correction For TPFDD Error 707

SVP Error 707 informs the user that a squadron unit has arrived before its assigned home base. The user can choose to open up the squadron table and either the naval Unit, airbase, or FARP tables to modify the arrival times of the problem unit and its home base. A quicker auto-correction has been implemented.

The new auto-correction modifies the arrival time of the error squadron unit. It changes the Squadron Unit's TPFDD time to one minute after the arrival of the Home Base Unit.

3.28 JTLS-2025-17317 Operate Pipeline Task Logic Error

If a unit is given a task to operate a pipeline, the model generates a logic error when determining if the unit is close enough to start operating the pipeline.

The code attempts to determine if the radius of the unit told to operate the pipeline overlaps the radius of the source pipeline node. Nodes have no radius. The model worked properly, but the logic error should not have been generated under this circumstance.

The code was changed to specifically specify that the radius of the node was zero. Thus the unit radius may cover the exact location of the pipeline source node.

3.29 JTLS-2025-17318 Hypersonic Missile Cannot Be Air-Launched

Hypersonic weapons should be able to be launched from aircraft, in a manner similar to cruise missiles, torpedoes, and ballistic missiles.

The code was fixed to allow hypersonic weapons to be launched from aircraft.

While fixing the code, several other problems were uncovered where hypersonic weapons were not properly considered. All missile-related code now properly allows the use of hypersonic weapons.

3.30 JTLS-2025-17321 Cannot Assign Missile To SSM Can Fire Set

If a missile is currently not assigned to any SSM Can Fire Set, it is impossible for the missile type to be assigned to an SSM Can Fire Set during game play.

The code and order were fixed to allow any Surface Kill-capable Missile to be assigned to an SSM Type Can Fire Set.

3.31 JTLS-2025-17325 PSYOPS From Airborne Broadcast Non-Operative

Leaflets dropped on a unit caused Psychological Operations (PSYOPS) effects, but Broadcast Jammers on board an aircraft did not work.

There was an error properly assigning the type of an effects tag that covered grids each time an air mission moved. Once fixed, the PSYOPS worked fine.

3.32 JTLS-2025-17331 Exercise Log Order Contains HTML tags

When a Set Load Assignment order is sent to the Exercise Log, the resulting automatically-generated order entry contains HTML tags that are unnecessary for the user to see.

The code was changed to avoid printing out the HTML tags.

3.33 JTLS-2025-17334 Naval Route Redundant JXSR Update Requests

The WHIP would request JXSR updates for naval and formation routes whenever users would display naval or formation routes in the WHIP filter panel. A user could request to display formation routes in the filter panel, but this would keep triggering JXSR update requests from the WHIP for naval units as well when they are not really needed.

The JXSR update request logic was separated for naval and formations routes. Now the WHIP will only request an update from JXSR naval routes when naval units alone are displayed from the filter panel. In contrast, the WHIP will only request an update from JXSR formation routes when formations units alone are displayed from the filter panel.

3.34 JTLS-2025-17335 WHIP Filter Illegal Characters

The WHIP restricts the user from renaming existing Filter or View files with any of the following symbols:

> !@#$%^&*(){}[]<>:;"'/~`'?

However, a user could create a file with any of those illegal symbols and the WHIP would accept it.

The user is no longer allowed to create or name Filter or View files that have any of the illegal symbols in the name.

3.35 JTLS-2025-17336 WHIP Filters STARTUP_VIEW Naming

The WHIP disallowed the user from modifying the STARTUP_VIEW.view file or creating any new Filter or View files with that name. However, if a user created a Filter or View name starting with "STARTUP_VIEW", following by a period (".") and any characters after it, the WHIP will not allow the user to modify it, as it thinks that file is the original STARTUP_VIEW file. Additionally, the WHIP allows the user to rename an existing file as that name.

Any user-created Filter or View files that begin with "STARTUP_VIEW." can now be modified, as the WHIP will now recognize it as a user-created file.

Additionally, the user can no longer rename an existing Filter or View file as "STARTUP_VIEW".

3.36 JTLS-2025-17346 Satellite IMT Spreadsheet Remove Option

The Manage Satellite order allows a satellite to be removed from the game. The Satellite Information IMT needs an order spreadsheet capability to remove more than one satellite simultaneously.

The order spreadsheet capability was added to the Satellite Assets IMT to allow multiple satellites to be removed from the game simultaneously.

3.37 JTLS-2025-17348 Invalid SUP Displayed In Emitter Sitrep

The Ship Unit Prototype (SUP) in the Sitrep window for an emitter located on a naval unit was incorrectly displayed as a numerical value instead of the textual name.

The Emitter section of the WHIP Sitrep Configuration file contained an improper row definition for the emitter's associated SUP. The error was corrected.

3.38 JTLS-2025-17351 Allow Satellite Field Entry From Map

The Controller cannot select a satellite from the Map or the IMT when filling out a Manage Satellite order. This should be a WHIP capability.

The order panels for both the Manage Satellite and Satellite Fire Weapon orders were changed to allow Map, list and keyboard entry for selecting the satellite to which the order applies.

3.39 JTLS-2025-17361 Intercepted Cruise Missile Issues

When an air mission begins an intercept, a one-line entry is added to the Mission Report that records the time and aircraft type intercepted. However, when the mission intercepted a cruise missile, the cruise missile type was blank in the Mission Report.

When an air mission flying at intercept speed destroyed a cruise missile, thus ending the intercept task, the mission did not return to its ordered speed (or its cruise speed if it had no ordered speed). Instead, the mission remained at its intercept speed on the way to its next task, unnecessarily consuming excess fuel. If the Player ordered the mission to break off, the mission did return to its ordered or cruise speed.

The Mission Report message template, and the underlying routine that writes the intercept sub-message, did not account for a cruise missile instead of an aircraft being intercepted. This oversight was corrected.

When the intercepted cruise missile was destroyed, logic was missing to change the mission's speed to its ordered or cruise speed. The missing logic was added.

3.40 JTLS-2025-17364 JSAT Order Crashed CEP

A satellite route order was sent to the CEP from the JSAT with a specification for 300 route points, when there were only 128 route points in the order. This caused the CEP to crash.

The calculation of the route points was abandoned early because the JSAT determined that the age of the TLE data made projecting future locations too inaccurate. This is why a route update was sent with 128 points instead of the expected 300 points.

After sending the bad order, the JSAT continued to produce additional future route orders with zero route points.

To correct these errors, all verification checks except the satellite name are now performed. The satellite name cannot be checked because the JSAT does not stop to update its JODA knowledge after creating a new satellite. This is not an issue because this check is also performed by the CEP. The order sending logic was also rearranged so that the proper number of route points is sent with the order, and when the TLE data is considered obsolete route generation stops and the user is informed via an error message.

3.41 JTLS-2025-17365 JSAT Always Fails First Order Injection

The first time the JSAT GUI is used to send satellite orders to the CEP, it fails because it does not have a complete download from the JODA. This is because the JODA connection is not attempted until the first sending of orders.

The JSAT service code was changed so that now, when the JSAT starts, it attempts a JODA connection in the background. If the connection attempt fails, the JSAT continues to make an attempt every 15 seconds. This way, a connection is always made if a JODA is available, so the JSAT GUI is ready to send orders as soon as the startup JODA download is complete.

The overhead of attempting a connection every 15 seconds is considered minimal for the performance of the JSAT, and the user should not notice any adverse effects when using the JSAT GUI for database inserts rather than model order inserts.

3.42 JTLS-2025-17368 DCP Java Help Images Not Loading

Images were not loading in the DCP help menu.

The image paths in the HTML file were updated and the images in the DCP help menu now load correctly.

3.43 JTLS-2025-17370 Remove Generate TBMCS Spreadsheet

Several years ago, the JTLS-GO project created code to generate a Theater Battle Management Core System (TBMCS) database from an existing JTLS-GO scenario. This capable was implemented, tested, and never used. TBMCS is no longer a system of record for the Air Force. Instead, the Air Force is using a capability called C2CORE to build and manage their daily Air Control Order (ACO) and Air Tasking Order (ATO).

This unused code is no longer needed and should be removed to avoid unnecessary maintenance costs.

The Scenario Initialization Program, Alter Database Function, was changed. All code needed to generate TBMCS database initialization spreadsheets was removed from the code base. If this

code is ever needed in the future, it is archived and documented within the previous JTLS-GO 6.3.6.0 release.

3.44 JTLS-2025-17375 New SVP Errors For TW Missile Capable Field

All hypersonic missiles must have at least two boost phases, ballistic missiles must have one boost phase, and cruise missiles, torpedoes, and targetable weapons that are not missile-capable must have zero boost phases. There were no checks in place in the SIP to alert the database user of these illegal occurrences.

Additionally, a missile may end up with a negative altitude while moving if it is labeled as hypersonic and the distance the weapon travels per boost phase is less than 3 seconds of travel time for the weapon.

New Error 341 has been added to ensure each TW has the correct number of boost phases.

New Error 342 has been added to ensure the database user receives an error if the travel per boost phase is less than 3 seconds of travel distance. This logic has also been added to the CEP to prohibit the Controller from creating a hypersonic weapon with this erroneous data.

3.45 JTLS-2025-17376 Order Help Fields Confusing

The help fields for several orders were confusing or obsolete.

The help for the following orders was updated for clarity:

- Set Communications Center Data

- Satellite Fire Weapon

- Controlled Debug Flags

3.46 JTLS-2025-17380 TW.MISSILE.CAPABLE Flag Corrections

Several of the Errors and Warnings in the SVP had an auto-correction to set the "TW.MISSILE.CAPABLE Flag", or erroneously referenced the "Missile Capable Flag" in the description of the correction. An Error occurred whenever the user attempted to use the auto-correction.

The TW.MISSILE.CAPABLE parameter was previously changed from a flag to a variable. The auto-corrections have been removed because there is no TW.MISSILE.CAPABLE value of "YES". The user must now open the Targetable Weapon table to modify the TW.MISSILE.CAPABLE field to a value other than "NO". References to the "TW.MISSILE.CAPABLE Flag" have been removed.

3.47 JTLS-2025-17382 Controller Damage Combat System Personnel

The new Controller Damage Combat System order does not allow the Controller to kill personnel Combat Systems and insists that they always be evacuated. They could always be put into maintenance or always catastrophically killed, but the choice to always evacuate them did not exist.

The capability was added to the Controller Damage Combat System order.

While testing this fix, it was also noted that when a personnel Combat System was catastrophically killed using the same order, the Supply Category for Remains was not being properly created. This problem was also fixed.

4.0 REMAINING ERRORS

Every effort has been made to correct known model errors. All reproducible errors that resulted in CEP catastrophic software failures (crashes) have been corrected. Other corrections were prioritized and completed according to their resource cost-to-benefit relationship.

The following list of issues is known and have not been fixed in time to make it into this release of JTLS-GO 6.3.7.0.

4.1 DDSC/WHIP/JOBE - CADRG Map Zoom

When using the CADRG map projection, if the width of the map is less than the height, the zoom tool does not work correctly.

4.2 MHE Targets Loading Air Mission Can Cause a Crash

MHE targets should be avoided for loading and unloading air missions. It is suggested that the database be set to "Do Not Use" for Air Missions.

4.3 JTLS-GO Strategic Lift Missions Are Not Working Properly

Strategic Lift Missions, used to move TPFDD assets into the Theater and report the results to a real-world TPFDD processing system, has not been updated to work within JTLS-GO 6.3.

4.4 Tactical Ground Formation Attacks Do Not Work

The ability to send a Tactical Ground Formation on an Attack mission has been temporarily disabled due to reliability issues.

4.5 ATOT Spreadsheet Lacks Detailed Field Checking

The ATOT Spreadsheet Parser has been found to have numerous issues within the Spreadsheet format that are not caught and cause the spreadsheet parser to crash. Fixing the uncovered issues are being worked and should be fixed prior to the next maintenance release of the JTLS-GO 6.3 series.

4.6 Moving Combat System Supplies Can Reduce Unit Strength To Zero

If a user does a mandatory transfer of Combat System supplies from one unit to another, the providing unit can be emptied out and exists without any Combat Systems or personnel. This situation needs to be thoroughly and properly handled.

4.7 Upgrade Procedures For Maintenance Release of PostgreSQL

The Development Team continues to look for viable options to upgrade from one maintenance release of PostgreSQL to a newer maintenance release.

APPENDIX A. ABBREVIATIONS AND ACRONYMS

Terms are included in this Appendix to define their usage in JTLS-GO design, functionality, and documentation.

AAA	Anti-Aircraft Artillery
AADC	Area Air Defense Commander
AAL	Air-to-Air Lethality
A/C	Aircraft
ACP	Air Control Prototype
ADA	Air Defense Artillery
AEW	Airborne Early Warning
AFB	Air Force Base
AG	Air-Ground (Air-to-Ground)
AI	Air Interdiction
AIM	Air Intercept Missile
AIREF	Air Refueling
AKL	Area Kill Lethality
AMMO	Ammunition
AO	Area of Operations
AOC	Air Operations Center
APC	Armored Personnel Carrier
ARECCE	Armed Reconnaissance
ARTE	Air Route
ARTY	Artillery
ASC	Automatic Supply Calculation
ASCII	American Standard Code for Information Interchange
ASW	Anti-Submarine Warfare
ATC	Aircraft Target Category
ATGM	Anti-Tank Guided Missile
ATK	Attack
ATO	Air Tasking Order
ATORET	Air Tasking Order Retrieve Program
ATOT	Air Tasking Order Translator
AWACS	Airborne Warning And Control System
AZ	Altitude Zone

BADGE	Bilateral Air Defense Ground Environment (used by Japan Defense Agency)
BAI	Battlefield Air Interdiction
BDA	Battle Damage Assessment
BDE	Brigade
BN	Battalion
C3	Command, Control, and Communications
C3I	Command, Control, Communications, and Intelligence
C4I	Command, Control, Communications, Computers, and Intelligence
CA	Civil Affairs
CADRG	Compressed ARC Digitized Raster Graphics
CAP	Combat Air Patrol
CAS	Close Air Support
CAT	Category
CCF	Central Control Facility
CCP	Command Control Prototype
CEP	Combat Events Program
CMDR	Commander
COP	Common Operational Picture
CP	Combat Power
CS	Combat System
CSP	Combat System Prototype
CTAPS	Contingency Tactical Air Planning System
CTG	Commander Task Group
CTRL	Control keyboard command
DCA	Defense Counter Air
DCL	Digital Command Language
DDS	Database Development System
DEMSDB	Demonstration Standard Database
DISA	Defense Information Systems Agency
DIV	Division
DMA	Defense Mapping Agency
DoD	Department of Defense
DOS	Days of Supply
DPICM	Dual Purpose Improved Conventional Munitions

DS	Direct Support
DSA	Directed Search Area
DTG	Date Time Group
EC	Electronic Combat
ECM	Electronic Counter Measure
ECP	Engineering Change Proposal
EEI	Essential Elements of Information
ELINT	Electronic Intelligence
ELS	Entity Level Server
EODA	Entity Level JTLS Object Data Authority
ETA	Estimated Time of Arrival
FARP	Forward Arming and Refueling Point
FLP	Fire Lethality Prototype
FLOT	Forward Location of Troops
FOL	Forward Operating Location
FWL	Frederick W. Lanchester (originated a differential equation model of attrition)
GAL	Gallon
GCCS	Global Command and Control System
GRTE	Ground Route
GS	General Support
GSR	General Support Reinforcing
GUI	Graphical User Interface
HARM	High-speed Anti-radiation Missile
HE	High Explosive
HELO	Helicopter
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HQ	Headquarters
HRU	High Resolution Unit
HTML	Hypertext Markup Language
HTT	High resolution unit Target Type
HUP	High resolution Unit Prototype
ICM	Improved Conventional Munitions
ICP	Interface Configuration Program
ICPLogin	Interface Login Program

ID	Identifier
IFF	Identification Friend or Foe
IIP	Intelligence Information Prototype
IMT	Information Management Tool
INFO	Information
INTEL	Intelligence
JCATS	Joint Conflict And Tactical Simulation
JDA	Japan Defense Agency
JDPI	Joint Desired Point of Impact (formerly DMPI: Desired Mean Point of Impact)
JDS	JTLS Data System
JDSP	JTLS Data System Protocol
JEDI	JODA Entity Data Identifier
JMCIS	Joint Maritime Combat Information System
JMEM	Joint Munitions Effectiveness Manuals
JODA	JTLS Object Distribution Authority
JOI	JTLS Operational Interface
JPL	Jet Propulsion Laboratory
JRSG	Joint Rapid Scenario Generation (formerly JIDPS: Joint Integrated Database Preparation System)
JSDF	Japanese Self-Defense Force
JTLS	Joint Theater Level Simulation
JTLS-GO	Joint Theater Level Simulation - Global Operations
JTOI	JTLS Transaction Operational Interface
JXSR	JTLS XML Serial Repository
KIA	Killed In Action
KM	Kilometer
KNOTS	Nautical miles per hour
LA	Lethal Area
LAN	Local Area Network
LAT	Latitude
LB	Login Build (JTLS order type)
LDAP	Lightweight Directory Access Protocol
LDT	Lanchester coefficient Development Tool
LOG	Logistics
LOGIN	Logistics Input

LOGREP   Logistics Report

LONG   Longitude

LOTS   Logistics Over The Shore

LR   Long Range

M&S   Modeling and Simulation

MAPP   Modern Aids to Planning Program

MB   Megabyte

MCP   Mobility Counter-mobility Prototype

MCR   Model Change Request

MG   Machine Gun

MHE   Material Handling Equipment

MIP   Model Interface Program

MOGAS   Motor Gasoline

MOPP   Mission-Oriented Protective Posture

MOSAIC   NCSA user interface software

MOTIF   X Window System graphical interface

MP   Maneuver Prototype

MPP   Message Processor Program

MSC   Major Subordinate Command

MSG   Message

MTF   Message Text Formats

MUREP   Munitions Report

MUSE   Multiple Unified Simulation Environment

NCSA   National Center for Supercomputing Applications (University of Illinois)

NEO   Noncombatant Evacuation Operations

NFS   Network File Server

NGO   Non-Governmental Organization

NIS   Network Information Service or Network Information System

NM   Nautical Mile

NTSC   Naval Telecommunications System Center

OAS   Offensive Air Support

OBS   Order of Battle Service (formerly UGU: Unit Generation Utility)

OCA   Offensive Counter-Air

OJCS   Organization of the Joint Chiefs of Staff

OMA	Order Management Authority
ONC	Operational Navigation Chart
OPM	Online Player Manual
OPP	Order Preprocessing Program
OTH	Over The Horizon
OTH Gold	Over The Horizon message specification
OTH-T	Over The Horizon-Targeting
pD	Probability of Detection
pE	Probability of Engage
pH	Probability of Hit
pK	Probability of Kill
PKL	Point Kill Lethality
POL	Petroleum, Oil, and Lubricants
POSIX	International operating system standard based on System V and BSD
PPS	Postprocessor System
PSYOPS	Psychological Operations
RAM	Random Access Memory
RDMS	Relational Database Management System
RECCE	Reconnaissance (air missions)
RECON	Reconnaissance (ground missions)
REGT	Regiment
RNS	Random Number Seed
ROE	Rules Of Engagement
RPT	Report
RSP	Reformat Spreadsheet Program
SAL	Surface-to-Air Lethality
SAM	Surface-to-Air Missile
SAM/AAA	Surface-to-Air Missile/Anti-Aircraft Artillery
SC	Supply Category
SCP	Simulation Control Plan
SDB	Standard Database
SDR	Scenario Data Repository
SEAD	Suppression of Enemy Air Defense
SIMSCRIPT	Simulation programming language (product of CACI, Inc.)

SIP	Scenario Initialization Program
SITREP	Situation Report
SLP	Sustainment Log Prototype
SOF	Special Operations Forces
SP	Survivability Prototype
SQL	Structured Query Language
SR	Short Range
SRP	Start/Restart Program (a JTLS component)
SRTE	Sea Route
SSM	Surface-to-Surface Missile
STR	Software Trouble Report
SUP	Ship Unit Prototype
SVP	Scenario Verification Program
SYNAPSE	Synchronized Authentication and Preferences Service
TADIL	Tactical Digital Interface Link
TCP/IP	Transmission Control Protocol/Internet Protocol
TEL	Transporter Erector Launcher
TG	Target entity attribute prefix
TGS	Terrain Generation Service (formerly TPS:Terrain Preparation System)
TGT	Target
TMU	Terrain Modification Utility
TOE	Table of Organization and Equipment
TOT	Time Over Target
TOW	Tube-launched Optically-tracked Wire-guided missile
TPFDD	Time-Phased Force Deployment Data
TTG	Target Type Group
TTL	Target Types List
TUP	Tactical Unit Prototype
TW	Targetable Weapon
UBL	Unit Basic Load
UIM/X	GUI builder tool
UNIX	POSIX-compliant operating system
UNK	Unknown
UOM	Unit Of Measure

USA	United States Army (U.S. and U.S.A. refer to United States and United States of America)
USAF	United States Air Force
USCG	United States Coast Guard
USMC	United States Marine Corps
USMTF	United States Message Text Format
USN	United States Navy
UT	Unit entity attribute prefix
UTM	Universal Transverse Mercator
VIFRED	Visual Forms Editor
VMS	Virtual Memory System
VTOL	Vertical Take-Off and Landing aircraft
WAN	Wide Area Network
WDRAW	Withdraw
WEJ	Web Enabled JTLS
WHIP	Web Hosted Interface Program
WIA	Wounded In Action
WPC	Warrior Preparation Center
WPN	Weapon
WT	Weight
WW	Wild Weasel
XMS	XML Message Service

APPENDIX B. Version 6.3.7.0 DATABASE CHANGES

Due to changes made in support of STR JTLS-2025-17024, the JTLS-GO 6.3.4.0 database format was changed to add a new column to the text_symbol_lu table, related to unit symbols.

This change requires that users **unload** their scenarios prior to installation of JTLS-GO 6.3.4.0, and then **load** them following installation, if users are upgrading to JTLS-GO 6.3.6.0 from JTLS-GO 6.3.3.0 or earlier.

APPENDIX C. VERSION Version 6.3.7.0 REPOSITORY CHANGES

No significant changes have been made to the structure of the JTLS-GO 6.3.6.0 repository.